CLAIMS

What is claimed is:

1.   A method for detecting a war dialing event in a telecommunications network, the method comprising:

    (a)   analyzing signaling messages associated with calls being made or attempted in a telecommunications network;

    (b)   based on the signaling messages, determining whether a war dialing event has occurred or is in progress; and

    (c)   in response to determining that a war dialing event has occurred or is in progress, performing a war dialing event mitigation action.

2.   The method of claim 1 wherein analyzing signaling messages includes correlating the signaling messages into war dialing event detection call detail records including information usable for detecting war dialing events.

3.   The method of claim 2 wherein correlating the call signaling messages into war dialing event detection call detail records includes storing predetermined parameters from call signaling messages used to initiate and terminate calls.

4.   The method of claim 1 wherein analyzing signaling messages includes comparing calling party information in the signaling messages to war dialing event information stored in a database.

5.   The method of claim 1 wherein determining whether a war dialing event has occurred or is in progress includes receiving a call signaling message, extracting calling party information from the call signaling

message, and determining whether the calling party is a confirmed war dialer.

6. The method of claim 1 wherein determining whether a war dialing event has occurred or is in progress includes determining whether the signaling messages indicate a plurality of short duration calls from the same calling party within a predetermined time period.

7. The method of claim 1 wherein determining whether a war dialing event has occurred or is in progress includes detecting patterns of calls from the same calling party.

8. The method of claim 7 wherein detecting patterns of calls includes detecting sequences of called party numbers dialed by the same calling party.

9. The method of claim 7 wherein detecting patterns of calls includes detecting called party numbers dialed by the same calling party, wherein the called party numbers are related to each other by a mathematical function.

10. The method of claim 1 wherein determining whether a war dialing event has occurred or is in progress includes determining whether a calling party number is in a predetermined war dialing exceptions list, and, in response to determining that the calling party number is in the exceptions list, determining that a war dialing event has not occurred.

11. The method of claim 1 wherein determining whether a war dialing event has occurred or is in progress includes determining whether a war dialing calling party is making follow up calls to a previous war dialing event.

12. The method of claim 11 wherein determining whether the war dialing calling party is making follow up calls includes comparing data extracted from call setup messages associated with the follow up calls to data extracted from call setup messages associated with initial calls made by the war dialing calling party.

13. The method of claim 1 wherein performing a war dialing event mitigation action includes generating a notification message in response to a war dialing event and sending the notification message to a network operations center.

14. The method of claim 1 wherein performing a war-dialing event mitigation action includes rerouting a call associated with the war dialing event.

15. The method of claim 1 wherein performing a war dialing event mitigation action includes blocking a call associated with the war dialing event.

16. The method of claim 15 wherein blocking the call includes sending a call signaling message to an end office associated with a war dialing calling party to block the call.

17. The method of claim 16 wherein sending a call signaling message includes sending an ISUP address complete message (ACM) message to the end office, the address complete message including a cause code indicating that the call was blocked due to detection of a war dialing event.

18. The method of claim 16 wherein sending a call signaling message includes sending an ISUP confusion (CFN) message to the end office,

the CFN message including a cause code indicating that the call was blocked due to detection of a war dialing event.

19. The method of claim 16 wherein sending a call signaling message includes sending an ISUP release (REL) message to the end office, the release message including a cause code indicating that the call was blocked due to detection of a war dialing event.

20. The method of claim 16 wherein sending a call signaling message includes sending an IP telephony call signaling message to the end office, the IP telephony call signaling message including a cause code indicating that the call was blocked due to detection of a war dialing event.

21. The method of claim 15 wherein blocking the call includes discarding a call signaling message used to set up the call.

22. The method of claim 1 comprising automatically populating a war dialer watch list based on detected war dialing events.

23. A system for detecting and mitigating the war dialing events, the system comprising:

(a) a war dialing event database for storing information associated with known or suspected war dialing calling parties;

(b) a call detail record database for storing call detail records including call information usable for detecting war dialing events; and

(c) a war dialing event detection function for obtaining call information and using the information in at least one of the war

dialing event and CDR databases to determine whether the call information is associated with a war dialing event.

24. The system of claim 23 wherein the war dialing event database includes a war dialing watch list containing calling party numbers associated with known or suspected war dialing calling parties.

25. The system of claim 23 wherein the war dialing event database includes war dialed call information including parameters associated with war dialed calls.

26. The system of claim 23 wherein the war dialing event database stores information regarding patterns of calls from the same calling party number.

27. The system of claim 23 wherein the war dialing event detection function is adapted to analyze CDRs stored in the CDR database to identify multiple short duration calls from the same calling party.

28. The system of claim 23 wherein the war dialing event detection function is adapted to examine the call detail records in the CDR database for patterns of calls from the same calling party.

29. The system of claim 23 wherein the war dialing event detection function is adapted to compare call detail records in the CDR database to war dialing event information in the war dialing event database to determine the presence of a war dialing event.

30. The system of claim 23 comprising a correlation function for analyzing the information in the CDR database and the war dialing event database to detect follow up calls by a war dialing calling party.

31. The system of claim 23 comprising a war dialing event mitigation function for performing a war dialing mitigation action in response to detection of a war dialing event.

32. The system of claim 31 wherein the war dialing event mitigation function is adapted to generate a notification message in response to detection of a war dialing event.

33. The system of claim 32 wherein the war dialing event mitigation function is adapted to block calls associated with war dialing events in progress.

34. The system of claim 23 comprising an exceptions database including information for identifying exceptions to war dialing events, wherein the war dialing event detection function is adapted to access the exceptions database in response to detecting call data relating to a potential war dialing event and to use the information in the exceptions database to determine whether the call data falls within an exception to a war dialing event.

35. A computer program product comprising computer executable instructions embodied in a computer readable medium, the method comprising:

    (a)   receiving call signaling messages;

    (b)   analyzing the call signaling messages to identify a plurality of calls from the same calling party within a predetermined time period;

    (c)   determining whether the plurality of calls indicates a war dialing event; and

(d)   in response to determining that the plurality of calls indicates a war dialing event, performing a mitigating action.

36.   The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes determining whether the calls each have a duration that is less than a predetermined value.

37.   The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes analyzing called party numbers to determine whether the called party numbers are related to each other by a predetermined mathematical function.

38.   The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes determining whether the calling party falls within a war dialing event exception.

39.   The computer program product of claim 38 comprising, in response to determining that the calling party falls within a war dialing event exception, indicating that the plurality of calls are not associated with a war dialing event.

40.   The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes detecting a plurality of IAM messages having the same circuit identification code from the same calling party within a predetermined time period, wherein the IAM messages have the same circuit identification code.

41. The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes determining whether the plurality of calls indicates a phase 1 war dialing event.

5   42. The computer program product of claim 35 wherein determining whether the plurality of calls indicates a war dialing event includes determining whether the plurality of calls indicates a phase 2 war dialing event.

43. The computer program product of claim 42 wherein determining

10   whether the plurality of calls indicates a phase 2 war dialing event includes determining whether the calls originate from a pay phone.

44. The computer program product of claim 35 wherein performing a mitigating action includes storing information in a database for identifying the calling party as a war dialer.

15   45. The computer program product of claim 44 comprising using the information in the database to identify subsequent war dialing events.

46. The computer program product of claim 35 wherein performing a war dialing event mitigating action includes capturing a geodesic location identifier parameter from a signaling message associated with a war

20   dialed call and using the geodesic location identifier to locate a war dialer.